



#5

SEQUENCE LISTING

<110> Philip J. BARR
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<120> MULTIFUNCTIONAL PROTEASE INHIBITORS AND
THEIR USE IN TREATMENT OF DISEASE

<130> 368292000200

<140> U.S. 10/025,514

<141> 2001-12-18

<150> U.S. 60/256,699

<151> 2000-12-18

<150> U.S. 60/331,966

<151> 2001-11-20

<160> 33

<170> FastSEQ for Windows Version 4.0

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<211> 1182

<212> DNA

<213> Homo sapiens

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ttcgccatgt	tgagttagg	tactaaagcc	gatacccatg	acgagatttt	agaagggtta	240
aactttaatt	tgaccgaaat	cccagaagcc	caaatcaccg	agggttttca	agagttgttg	300
agaactttga	atcaacctga	ttctcaattg	caattaacta	ctggtaacgg	tttatttttg	360
tctgaagggt	taaaattggg	tgacaaattc	ctagaagacg	tcaagaaact	atatcatagt	420
gaggctttta	ccgttaattt	tggtgatact	gaggaagcta	aaaagcaaat	taatgattat	480
ggtgagaaag	gcacccaggg	taagatcggt	gacctagtta	aagaattaga	tcgtgatacc	540
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atgaaaagac	tgggtatggt	caatattcaa	cattgcaaaa	aattaagttc	ttgggtctta	720
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caacatttag	agaatgagtt	gactcatgac	attattacta	aattttttaga	gaacgaggat	840
cgctcgtagcg	cttctctgca	cctgccaaaag	ttaagtatca	ccggtactta	cgacttaaaa	900
tctgttttag	gccagttagg	tattaccaa	gttttttcta	acggtgccga	tttgagtggg	960
gttactgaag	aagctccatt	aaaattgagt	aaagctgttc	acaaagccgt	cttaactatt	1020
gatgaaaagg	gtaccgaggg	cgccggcgct	atgttcctgg	aagctattcc	aatgagcatt	1080
ccaccagaag	ttaaatttaa	taaaccattc	gtttttctga	tgatcgagca	gaacactaaa	1140
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<210> 2

<211> 394

<212> PRT

<213> Homo sapiens

<400> 2

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	20							25					30		
Phe	Ala	Phe	Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser	Thr
	35						40					45			
Asn	Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met	Leu
	50					55					60				
Ser	Leu	Gly	Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly	Leu
65				70						75				80	
Asn	Phe	Asn	Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly	Phe
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Gln	Glu	Leu	Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln	Leu
				100					105				110		
Thr	Thr	Gly	Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val	Asp
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Lys	Phe	Leu	Glu	Asp	Val	Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe	Thr
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Val	Asn	Phe	Gly	Asp	Thr	Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp	Tyr
145				150						155				160	
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				165					170					175	
Asp	Arg	Asp	Thr	Val	Phe	Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys	Gly
		180							185					190	
Lys	Trp	Glu	Arg	Pro	Phe	Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp	Phe
	195						200						205		
His	Val	Asp	Gln	Val	Thr	Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg	Leu
	210					215					220				
Gly	Met	Phe	Asn	Ile	Gln	His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val	Leu
225				230						235				240	
Leu	Met	Lys	Tyr	Leu	Gly	Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro	Asp
				245					250					255	
Glu	Gly	Lys	Leu	Gln	His	Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile	Ile
			260					265					270		
Thr	Lys	Phe	Leu	Glu	Asn	Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His	Leu
		275					280					285			
Pro	Lys	Leu	Ser	Ile	Thr	Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu	Gly
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Gln	Leu	Gly	Ile	Thr	Lys	Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser	Gly
305				310						315				320	
Val	Thr	Glu	Glu	Ala	Pro	Leu	Lys	Leu	Ser	Lys	Ala	Val	His	Lys	Ala
				325						330				335	
Val	Leu	Thr	Ile	Asp	Glu	Lys	Gly	Thr	Glu	Ala	Ala	Gly	Ala	Met	Phe
			340					345					350		
Leu	Glu	Ala	Ile	Pro	Met	Ser	Ile	Pro	Pro	Glu	Val	Lys	Phe	Asn	Lys
		355					360					365			
Pro	Phe	Val	Phe	Leu	Met	Ile	Glu	Gln	Asn	Thr	Lys	Ser	Pro	Leu	Phe
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Met	Gly	Lys	Val	Val	Asn	Pro	Thr	Gln	Lys						
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<210> 3

<211> 321

<212> DNA

<213> Homo sapiens

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gacacttggtg gtatcaagtg tctagaccca gttgacaccc caaaccacaac tagaagaaag 180
ccaggtaagt gtccagttac ttacgggtcaa tgtttgatgt tgaacccacc aaacttctgt 240
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<210> 4
<211> 107
<212> PRT
<213> Homo sapiens

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Gln Cys Leu Arg Tyr Lys Lys Pro Glu Cys Gln Ser Asp Trp Gln Cys
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Pro Gly Lys Lys Arg Cys Cys Pro Asp Thr Cys Gly Ile Lys Cys Leu
35 40 45
Asp Pro Val Asp Thr Pro Asn Pro Thr Arg Arg Lys Pro Gly Lys Cys
50 55 60
Pro Val Thr Tyr Gly Gln Cys Leu Met Leu Asn Pro Pro Asn Phe Cys
65 70 75 80
Glu Met Asp Gly Gln Cys Lys Arg Asp Leu Lys Cys Cys Met Gly Met
85 90 95
Cys Gly Lys Ser Cys Val Ser Pro Val Lys Ala
100 105

<210> 5
<211> 552
<212> DNA
<213> Homo sapiens

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aagatgacca agatgtataa agggttccaa gccttagggg atgccgctga catccgggtc 180
gtctacaccc ccgccatgga gagtgtctgc ggatacttcc acagggtcca caaccgcagc 240
gaggagtctc tcattgctgg aaaactgcag gatggactct tgcacatcac tacctgcagt 300
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agtggcactc attgcttctg gacggaccag ctccctccaag gctctgaaaa gggcttccag 480
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<210> 6
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<213> Homo sapiens

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Thr Leu Tyr Gln Arg Tyr Glu Ile Lys Met Thr Lys Met Tyr Lys Gly

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			20					25					30		
Cys	Pro	Gly	Lys	Lys	Arg	Cys	Cys	Pro	Asp	Thr	Cys	Gly	Ile	Lys	Cys
		35					40					45			
Leu	Asp	Pro	Val	Asp	Thr	Pro	Asn	Pro	Thr	Arg	Arg	Lys	Pro	Gly	Lys
	50					55					60				
Cys	Pro	Val	Thr	Tyr	Gly	Gln	Cys	Leu	Met	Leu	Asn	Pro	Pro	Asn	Phe
65					70					75					80
Cys	Glu	Met	Asp	Gly	Gln	Cys	Lys	Arg	Asp	Leu	Lys	Cys	Cys	Met	Gly
			85						90					95	
Met	Cys	Gly	Lys	Ser	Cys	Val	Ser	Pro	Val	Lys	Ala	Met	Glu	Asp	Pro
			100					105					110		
Gln	Gly	Asp	Ala	Ala	Gln	Lys	Thr	Asp	Thr	Ser	His	His	Asp	Gln	Asp
		115					120					125			
His	Pro	Thr	Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala	Glu	Phe	Ala	Phe
	130					135					140				
Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser	Thr	Asn	Ile	Phe
145					150					155					160
Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met	Leu	Ser	Leu	Gly
			165						170					175	
Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly	Leu	Asn	Phe	Asn
		180					185						190		
Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly	Phe	Gln	Glu	Leu
	195						200					205			
Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln	Leu	Thr	Thr	Gly
	210				215						220				
Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val	Asp	Lys	Phe	Leu
225					230					235					240
Glu	Asp	Val	Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe	Thr	Val	Asn	Phe
			245						250					255	
Gly	Asp	Thr	Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp	Tyr	Val	Glu	Lys
		260						265					270		
Gly	Thr	Gln	Gly	Lys	Ile	Val	Asp	Leu	Val	Lys	Glu	Leu	Asp	Arg	Asp
		275					280						285		
Thr	Val	Phe	Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys	Gly	Lys	Trp	Glu
	290					295					300				
Arg	Pro	Phe	Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp	Phe	His	Val	Asp
305					310					315					320
Gln	Val	Thr	Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg	Leu	Gly	Met	Phe
			325						330					335	
Asn	Ile	Gln	His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val	Leu	Leu	Met	Lys
		340						345					350		
Tyr	Leu	Gly	Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro	Asp	Glu	Gly	Lys
	355						360					365			
Leu	Gln	His	Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile	Ile	Thr	Lys	Phe
	370					375					380				
Leu	Glu	Asn	Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His	Leu	Pro	Lys	Leu
385					390					395					400
Ser	Ile	Thr	Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu	Gly	Gln	Leu	Gly
			405						410					415	
Ile	Thr	Lys	Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser	Gly	Val	Thr	Glu
		420					425						430		
Glu	Ala	Pro	Leu	Lys	Leu	Ser	Lys	Ala	Val	His	Lys	Ala	Val	Leu	Thr

435	440	445
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450	455	460
Ile Pro Met Ser Ile Pro Pro Glu Val Lys Phe Asn Lys Pro Phe Val		
465	470	475
Phe Leu Met Ile Glu Gln Asn Thr Lys Ser Pro Leu Phe Met Gly Lys		
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Val Val Asn Pro Thr Gln Lys		
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<210> 9
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 <212> DNA
 <213> Homo sapiens

<400> 9

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gttatgagat	caagatgacc	aagatgtata	aaggggtcca	agccttaggg	gatgccgctg	180
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acaaccgcag	cgaggagttt	ctcattgctg	gaaaactgca	ggatggactc	ttgcacatca	300
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gcaaactgca	gagtggcact	cattgcttgt	ggacggacca	gtcctcccaa	ggctctgaaa	480
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acaccagtaa	tcacgaccaa	gaccatccga	cttttaataa	aattactcca	aatttagccg	660
aatttgcctt	ttctttgtat	agacaattag	ctcatcaaag	taattctact	aacatttttt	720
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tcctggaagc	tattccaatg	agcattccac	cagaagttaa	atttaataaa	ccattcgttt	1680
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<210> 10
 <211> 580
 <212> PRT
 <213> Homo sapiens

<400> 10

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Asp Leu Val Ile Arg Ala Lys Phe Val Gly Thr Pro Glu Val Asn Gln
20 25 30

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		35					40					45			
Gly	Phe	Gln	Ala	Leu	Gly	Asp	Ala	Ala	Asp	Ile	Arg	Phe	Val	Tyr	Thr
		50				55					60				
Pro	Ala	Met	Glu	Ser	Val	Cys	Gly	Tyr	Phe	His	Arg	Ser	His	Asn	Arg
65					70					75				80	
Ser	Glu	Glu	Phe	Leu	Ile	Ala	Gly	Lys	Leu	Gln	Asp	Gly	Leu	Leu	His
				85					90					95	
Ile	Thr	Thr	Cys	Ser	Phe	Val	Ala	Pro	Trp	Asn	Ser	Leu	Ser	Leu	Ala
			100					105					110		
Gln	Arg	Arg	Gly	Phe	Thr	Lys	Thr	Tyr	Thr	Val	Gly	Cys	Glu	Glu	Cys
		115					120					125			
Thr	Val	Phe	Pro	Cys	Leu	Ser	Ile	Pro	Cys	Lys	Leu	Gln	Ser	Gly	Thr
		130				135					140				
His	Cys	Leu	Trp	Thr	Asp	Gln	Leu	Leu	Gln	Gly	Ser	Glu	Lys	Gly	Phe
145					150					155					160
Gln	Ser	Arg	His	Leu	Ala	Cys	Leu	Pro	Arg	Glu	Pro	Gly	Leu	Cys	Thr
			165						170					175	
Trp	Gln	Ser	Leu	Arg	Ser	Gln	Ile	Ala	Met	Glu	Asp	Pro	Gln	Gly	Asp
			180					185					190		
Ala	Ala	Gln	Lys	Thr	Asp	Thr	Ser	His	His	Asp	Gln	Asp	His	Pro	Thr
		195					200					205			
Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala	Glu	Phe	Ala	Phe	Ser	Leu	Tyr
		210				215					220				
Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser	Thr	Asn	Ile	Phe	Phe	Ser	Pro
225					230					235					240
Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met	Leu	Ser	Leu	Gly	Thr	Lys	Ala
			245						250					255	
Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly	Leu	Asn	Phe	Asn	Leu	Thr	Glu
			260					265					270		
Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly	Phe	Gln	Glu	Leu	Leu	Arg	Thr
		275					280					285			
Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln	Leu	Thr	Thr	Gly	Asn	Gly	Leu
		290				295					300				
Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val	Asp	Lys	Phe	Leu	Glu	Asp	Val
305					310					315					320
Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe	Thr	Val	Asn	Phe	Gly	Asp	Thr
				325					330					335	
Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp	Tyr	Val	Glu	Lys	Gly	Thr	Gln
			340					345					350		
Gly	Lys	Ile	Val	Asp	Leu	Val	Lys	Glu	Leu	Asp	Arg	Asp	Thr	Val	Phe
		355					360					365			
Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys	Gly	Lys	Trp	Glu	Arg	Pro	Phe
		370				375					380				
Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp	Phe	His	Val	Asp	Gln	Val	Thr
385					390					395					400
Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg	Leu	Gly	Met	Phe	Asn	Ile	Gln
				405					410					415	
His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val	Leu	Leu	Met	Lys	Tyr	Leu	Gly
			420					425					430		
Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro	Asp	Glu	Gly	Lys	Leu	Gln	His
			435				440					445			
Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile	Ile	Thr	Lys	Phe	Leu	Glu	Asn
		450				455					460				
Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His	Leu	Pro	Lys	Leu	Ser	Ile	Thr
465					470					475					480
Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu	Gly	Gln	Leu	Gly	Ile	Thr	Lys

				485					490					495					
Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser	Gly	Val	Thr	Glu	Glu	Ala	Pro				
			500					505					510						
Leu	Lys	Leu	Ser	Lys	Ala	Val	His	Lys	Ala	Val	Leu	Thr	Ile	Asp	Glu				
		515					520						525						
Lys	Gly	Thr	Glu	Ala	Ala	Gly	Ala	Met	Phe	Leu	Glu	Ala	Ile	Pro	Met				
		530				535					540								
Ser	Ile	Pro	Pro	Glu	Val	Lys	Phe	Asn	Lys	Pro	Phe	Val	Phe	Leu	Met				
					550					555					560				
Ile	Glu	Gln	Asn	Thr	Lys	Ser	Pro	Leu	Phe	Met	Gly	Lys	Val	Val	Asn				
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Pro	Thr	Gln	Lys																
			580																

<210> 11
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 <212> PRT
 <213> Homo sapiens

<400> 11
 Gln Val Val Ala Gly
 1 5

<210> 12
 <211> 5
 <212> PRT
 <213> Bacteria (streptomyces)

<220>
 <221> MOD_RES
 <222> 1
 <223> Xaa= valine modified with N-terminal isovaleryl
 group

<221> MOD_RES
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 <223> Xaa= statin

<400> 12
 Xaa Val Xaa Ala Xaa
 1 5

<210> 13
 <211> 1582
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 <213> Homo sapiens

<400> 13
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 ccaagacgta tactgttggc tgtgaggaaa tggaagaccc tcaaggcgac gccgctcaaa 420
 aaaccgacac cagtcacac gaccaagacc atccgacttt taataaaatt actccaaatt 480
 tagccgaatt tgctttttct ttgtatagac aattagctca tcaaagtaat tctactaaca 540

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ccgataccca	tgacgagatt	ttagaagggt	taaacttta	tttgaccgaa	atcccagaag	660
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<210> 14
 <211> 522
 <212> PRT
 <213> Homo sapiens

<400> 14

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			20					25					30		
Thr	Thr	Leu	Tyr	Gln	Arg	Tyr	Glu	Ile	Lys	Met	Thr	Lys	Met	Tyr	Lys
		35					40					45			
Gly	Phe	Gln	Ala	Leu	Gly	Asp	Ala	Ala	Asp	Ile	Arg	Phe	Val	Tyr	Thr
	50					55					60				
Pro	Ala	Met	Glu	Ser	Val	Cys	Gly	Tyr	Phe	His	Arg	Ser	His	Asn	Arg
65					70					75				80	
Ser	Glu	Glu	Phe	Leu	Ile	Ala	Gly	Lys	Leu	Gln	Asp	Gly	Leu	Leu	His
			85						90					95	
Ile	Thr	Thr	Cys	Ser	Phe	Val	Ala	Pro	Trp	Asn	Ser	Leu	Ser	Leu	Ala
		100						105					110		
Gln	Arg	Arg	Gly	Phe	Thr	Lys	Thr	Tyr	Thr	Val	Gly	Cys	Glu	Glu	Met
	115					120						125			
Glu	Asp	Pro	Gln	Gly	Asp	Ala	Ala	Gln	Lys	Thr	Asp	Thr	Ser	His	His
	130				135						140				
Asp	Gln	Asp	His	Pro	Thr	Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala	Glu
145					150					155					160
Phe	Ala	Phe	Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser	Thr
			165						170					175	
Asn	Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met	Leu
	180							185					190		
Ser	Leu	Gly	Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly	Leu
	195				200							205			
Asn	Phe	Asn	Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly	Phe
	210				215						220				
Gln	Glu	Leu	Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln	Leu
225				230						235					240
Thr	Thr	Gly	Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val	Asp
			245						250					255	

Lys Phe Leu Glu Asp Val Lys Lys Leu Tyr His Ser Glu Ala Phe Thr	260	265	270
Val Asn Phe Gly Asp Thr Glu Glu Ala Lys Lys Gln Ile Asn Asp Tyr	275	280	285
Val Glu Lys Gly Thr Gln Gly Lys Ile Val Asp Leu Val Lys Glu Leu	290	295	300
Asp Arg Asp Thr Val Phe Ala Leu Val Asn Tyr Ile Phe Phe Lys Gly	305	310	315
Lys Trp Glu Arg Pro Phe Glu Val Lys Asp Thr Glu Glu Glu Asp Phe	325	330	335
His Val Asp Gln Val Thr Thr Val Lys Val Pro Met Met Lys Arg Leu	340	345	350
Gly Met Phe Asn Ile Gln His Cys Lys Lys Leu Ser Ser Trp Val Leu	355	360	365
Leu Met Lys Tyr Leu Gly Asn Ala Thr Ala Ile Phe Phe Leu Pro Asp	370	375	380
Glu Gly Lys Leu Gln His Leu Glu Asn Glu Leu Thr His Asp Ile Ile	385	390	395
Thr Lys Phe Leu Glu Asn Glu Asp Arg Arg Ser Ala Ser Leu His Leu	405	410	415
Pro Lys Leu Ser Ile Thr Gly Thr Tyr Asp Leu Lys Ser Val Leu Gly	420	425	430
Gln Leu Gly Ile Thr Lys Val Phe Ser Asn Gly Ala Asp Leu Ser Gly	435	440	445
Val Thr Glu Glu Ala Pro Leu Lys Leu Ser Lys Ala Val His Lys Ala	450	455	460
Val Leu Thr Ile Asp Glu Lys Gly Thr Glu Ala Ala Gly Ala Met Phe	465	470	475
Leu Glu Ala Ile Pro Met Ser Ile Pro Pro Glu Val Lys Phe Asn Lys	485	490	495
Pro Phe Val Phe Leu Met Ile Glu Gln Asn Thr Lys Ser Pro Leu Phe	500	505	510
Met Gly Lys Val Val Asn Pro Thr Gln Lys	515	520	

<210> 15
 <211> 1525
 <212> DNA
 <213> Homo sapiens

<400> 15

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tgtatagaca attagctcat caaagtaatt ctactaacat ttttttttagt cctgttttcta	180
ttgccactgc tttcgccatg ttgagtttag gtactaaagc cgatacccat gacgagattt	240
tagaagggtt aaactttaat ttgaccgaaa tcccagaagc ccaaattcac gaggggttttc	300
aagagttggt gagaactttg aatcaacctg attctcaatt gcaattaact actggtaacg	360
gtttattttt gtctgaaggt ttaaaattgg ttgacaaatt cctagaagac gtcaagaaac	420
tatatcatag tgaggctttt accgttaatt ttggtgatac tgaggaagct aaaaagcaaa	480
ttaatgatta tgttgagaaa ggcacccagg gtaagatcgt tgacctagtt aaagaattag	540
atcgtgatac cgtcttcgca ctagttaact atattttttt caagggtaag tgggaacgtc	600
ctttcgagggt taaagatact gaagaggaag attttcatgt tgatcaagtt actactgtca	660
aagttccaat gatgaaaaga ctgggtatgt tcaatattca acattgcaaa aaattaagtt	720
cttgggtctt attaataag tatttaggta acgctactgc tatttttttt ttaccagacg	780
aaggtaagct tcaacattta gagaatgagt tgactcatga cattattact aaatttttag	840
agaacgagga tcgtcgtagc gcttctctgc acctgccaaa gttaagtatc accggtactt	900
acgacttaaa atctgtttta ggccagtttag gtattaccaa agttttttct aacggtgccg	960

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caatgagcat	tccaccagaa	gttaaattta	ataaaccatt	cgtttttctg	atgatcgagc	1140
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gaaagtcttt	caaggccggt	gtttgtccac	caaagaagtc	cgctcaatgt	ttgagataca	1260
agaagccaga	atgtcaatcc	gactggcaat	gtccaggtaa	gaagagatgt	tgtccagaca	1320
cttgtgggtat	caagtgtcta	gacccagttg	acaccccaaa	cccaactaga	agaaagccag	1380
gtaagtgtcc	agttacttac	ggtcaatgtt	tgatgttgaa	cccaccaaac	ttctgtgaaa	1440
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<210> 16
 <211> 503
 <212> PRT
 <213> Homo sapiens

<400> 16

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His	Asp	Gln	Asp	His	Pro	Thr	Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala
		20						25					30		
Glu	Phe	Ala	Phe	Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser
		35					40					45			
Thr	Asn	Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met
	50					55						60			
Leu	Ser	Leu	Gly	Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly
65					70					75				80	
Leu	Asn	Phe	Asn	Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly
			85						90					95	
Phe	Gln	Glu	Leu	Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln
			100					105					110		
Leu	Thr	Thr	Gly	Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val
		115					120					125			
Asp	Lys	Phe	Leu	Glu	Asp	Val	Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe
	130					135					140				
Thr	Val	Asn	Phe	Gly	Asp	Thr	Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp
145					150					155					160
Tyr	Val	Glu	Lys	Gly	Thr	Gln	Gly	Lys	Ile	Val	Asp	Leu	Val	Lys	Glu
			165					170						175	
Leu	Asp	Arg	Asp	Thr	Val	Phe	Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys
		180					185						190		
Gly	Lys	Trp	Glu	Arg	Pro	Phe	Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp
		195				200						205			
Phe	His	Val	Asp	Gln	Val	Thr	Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg
	210					215					220				
Leu	Gly	Met	Phe	Asn	Ile	Gln	His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val
225				230						235					240
Leu	Leu	Met	Lys	Tyr	Leu	Gly	Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro
			245					250						255	
Asp	Glu	Gly	Lys	Leu	Gln	His	Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile
			260					265					270		
Ile	Thr	Lys	Phe	Leu	Glu	Asn	Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His
		275				280						285			
Leu	Pro	Lys	Leu	Ser	Ile	Thr	Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu
	290					295					300				
Gly	Gln	Leu	Gly	Ile	Thr	Lys	Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser
305				310						315					320

Gly Val Thr Glu Glu Ala Pro Leu Lys Leu Ser Lys Ala Val His Lys
 325 330 335
 Ala Val Leu Thr Ile Asp Glu Lys Gly Thr Glu Ala Ala Gly Ala Met
 340 345 350
 Phe Leu Glu Ala Ile Pro Met Ser Ile Pro Pro Glu Val Lys Phe Asn
 355 360 365
 Lys Pro Phe Val Phe Leu Met Ile Glu Gln Asn Thr Lys Ser Pro Leu
 370 375 380
 Phe Met Gly Lys Val Val Asn Pro Thr Gln Lys Met Ser Gly Lys Ser
 385 390 395 400
 Phe Lys Ala Gly Val Cys Pro Pro Lys Lys Ser Ala Gln Cys Leu Arg
 405 410 415
 Tyr Lys Lys Pro Glu Cys Gln Ser Asp Trp Gln Cys Pro Gly Lys Lys
 420 425 430
 Arg Cys Cys Pro Asp Thr Cys Gly Ile Lys Cys Leu Asp Pro Val Asp
 435 440 445
 Thr Pro Asn Pro Thr Arg Arg Lys Pro Gly Lys Cys Pro Val Thr Tyr
 450 455 460
 Gly Gln Cys Leu Met Leu Asn Pro Pro Asn Phe Cys Glu Met Asp Gly
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 Gln Cys Lys Arg Asp Leu Lys Cys Cys Met Gly Met Cys Gly Lys Ser
 485 490 495
 Cys Val Ser Pro Val Lys Ala
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<210> 17
 <211> 1756
 <212> DNA
 <213> Homo sapiens

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gtcaccttgc ctgcctgcct cgggagccag ggctgtgcac ctggcagtcc ctgcgggtccc	1740
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<210> 18
 <211> 580
 <212> PRT
 <213> Homo sapiens

<400> 18

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His	Asp	Gln	Asp	His	Pro	Thr	Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala
		20						25					30		
Glu	Phe	Ala	Phe	Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser
		35					40					45			
Thr	Asn	Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met
	50					55					60				
Leu	Ser	Leu	Gly	Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly
65					70				75					80	
Leu	Asn	Phe	Asn	Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly
			85						90					95	
Phe	Gln	Glu	Leu	Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln
		100						105					110		
Leu	Thr	Thr	Gly	Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val
	115					120						125			
Asp	Lys	Phe	Leu	Glu	Asp	Val	Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe
	130					135				140					
Thr	Val	Asn	Phe	Gly	Asp	Thr	Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp
145					150				155					160	
Tyr	Val	Glu	Lys	Gly	Thr	Gln	Gly	Lys	Ile	Val	Asp	Leu	Val	Lys	Glu
			165					170						175	
Leu	Asp	Arg	Asp	Thr	Val	Phe	Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys
		180						185					190		
Gly	Lys	Trp	Glu	Arg	Pro	Phe	Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp
	195					200						205			
Phe	His	Val	Asp	Gln	Val	Thr	Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg
	210					215					220				
Leu	Gly	Met	Phe	Asn	Ile	Gln	His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val
225				230					235					240	
Leu	Leu	Met	Lys	Tyr	Leu	Gly	Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro
			245					250						255	
Asp	Glu	Gly	Lys	Leu	Gln	His	Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile
		260						265					270		
Ile	Thr	Lys	Phe	Leu	Glu	Asn	Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His
	275					280						285			
Leu	Pro	Lys	Leu	Ser	Ile	Thr	Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu
	290					295					300				
Gly	Gln	Leu	Gly	Ile	Thr	Lys	Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser
305				310					315					320	
Gly	Val	Thr	Glu	Glu	Ala	Pro	Leu	Lys	Leu	Ser	Lys	Ala	Val	His	Lys
			325					330						335	
Ala	Val	Leu	Thr	Ile	Asp	Glu	Lys	Gly	Thr	Glu	Ala	Ala	Gly	Ala	Met
		340						345					350		
Phe	Leu	Glu	Ala	Ile	Pro	Met	Ser	Ile	Pro	Pro	Glu	Val	Lys	Phe	Asn
	355						360						365		

Lys Pro Phe Val Phe Leu Met Ile Glu Gln Asn Thr Lys Ser Pro Leu
 370 375 380
 Phe Met Gly Lys Val Val Asn Pro Thr Gln Lys Met Cys Thr Cys Val
 385 390 395 400
 Pro Pro His Pro Gln Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg
 405 410 415
 Ala Lys Phe Val Gly Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln
 420 425 430
 Arg Tyr Glu Ile Lys Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu
 435 440 445
 Gly Asp Ala Ala Asp Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser
 450 455 460
 Val Cys Gly Tyr Phe His Arg Ser His Asn Arg Ser Glu Glu Phe Leu
 465 470 475 480
 Ile Ala Gly Lys Leu Gln Asp Gly Leu Leu His Ile Thr Thr Cys Ser
 485 490 495
 Phe Val Ala Pro Trp Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly Phe
 500 505 510
 Thr Lys Thr Tyr Thr Val Gly Cys Glu Glu Cys Thr Val Phe Pro Cys
 515 520 525
 Leu Ser Ile Pro Cys Lys Leu Gln Ser Gly Thr His Cys Leu Trp Thr
 530 535 540
 Asp Gln Leu Leu Gln Gly Ser Glu Lys Gly Phe Gln Ser Arg His Leu
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 565 570 575
 Ser Gln Ile Ala
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<210> 19
 <211> 1582
 <212> DNA
 <213> Homo sapiens

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 ctttcgaggt taaagatact gaagaggaag attttcatgt tgatcaagtt actactgtca 660
 aagttccaat gatgaaaaga ctgggtatgt tcaatattca acattgcaaa aaattaagtt 720
 cttgggtctt attaatgaag tathtaggtta acgctactgc tatttttttt ttaccagacg 780
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 tcttaactat tgatgaaaag ggtaccgagg ccgccggcgc tatgttcctg gaagctattc 1080
 caatgagcat tccaccagaa gttaaattta ataaaccatt cgttttttctg atgatcgagc 1140
 agaacactaa aagcccattg tttatgggta aggttggtcaa cccaactcag aagatgtgca 1200
 cgtgtgtccc accccaccca cagacggcct tctgcaattc cgacctcgtc atcagggcca 1260
 agttcgtggg gacaccagaa gtcaaccaga ccaccttata ccagcgttat gagatcaaga 1320

tgaccaagat	gtataaaggg	ttccaagcct	taggggatgc	cgctgacatc	cggttcgtct	1380
acacccccgc	catggagagt	gtctgcggat	acttccacag	gtcccacaac	cgcagcgagg	1440
agttttctcat	tgctggaaaa	ctgcaggatg	gactcttgca	catcactacc	tgcagtttcg	1500
tggctccctg	gaacagcctg	agcttagctc	agcgccgggg	cttcaccaag	acctacactg	1560
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<210> 20
 <211> 522
 <212> PRT
 <213> Homo sapiens

<400> 20

Met	Glu	Asp	Pro	Gln	Gly	Asp	Ala	Ala	Gln	Lys	Thr	Asp	Thr	Ser	His
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His	Asp	Gln	Asp	His	Pro	Thr	Phe	Asn	Lys	Ile	Thr	Pro	Asn	Leu	Ala
		20						25					30		
Glu	Phe	Ala	Phe	Ser	Leu	Tyr	Arg	Gln	Leu	Ala	His	Gln	Ser	Asn	Ser
		35					40					45			
Thr	Asn	Ile	Phe	Phe	Ser	Pro	Val	Ser	Ile	Ala	Thr	Ala	Phe	Ala	Met
	50					55					60				
Leu	Ser	Leu	Gly	Thr	Lys	Ala	Asp	Thr	His	Asp	Glu	Ile	Leu	Glu	Gly
65					70					75					80
Leu	Asn	Phe	Asn	Leu	Thr	Glu	Ile	Pro	Glu	Ala	Gln	Ile	His	Glu	Gly
			85						90					95	
Phe	Gln	Glu	Leu	Leu	Arg	Thr	Leu	Asn	Gln	Pro	Asp	Ser	Gln	Leu	Gln
			100					105					110		
Leu	Thr	Thr	Gly	Asn	Gly	Leu	Phe	Leu	Ser	Glu	Gly	Leu	Lys	Leu	Val
	115					120						125			
Asp	Lys	Phe	Leu	Glu	Asp	Val	Lys	Lys	Leu	Tyr	His	Ser	Glu	Ala	Phe
	130					135					140				
Thr	Val	Asn	Phe	Gly	Asp	Thr	Glu	Glu	Ala	Lys	Lys	Gln	Ile	Asn	Asp
145					150					155					160
Tyr	Val	Glu	Lys	Gly	Thr	Gln	Gly	Lys	Ile	Val	Asp	Leu	Val	Lys	Glu
				165					170					175	
Leu	Asp	Arg	Asp	Thr	Val	Phe	Ala	Leu	Val	Asn	Tyr	Ile	Phe	Phe	Lys
		180					185						190		
Gly	Lys	Trp	Glu	Arg	Pro	Phe	Glu	Val	Lys	Asp	Thr	Glu	Glu	Glu	Asp
	195					200						205			
Phe	His	Val	Asp	Gln	Val	Thr	Val	Lys	Val	Pro	Met	Met	Lys	Arg	
	210					215					220				
Leu	Gly	Met	Phe	Asn	Ile	Gln	His	Cys	Lys	Lys	Leu	Ser	Ser	Trp	Val
225				230					235					240	
Leu	Leu	Met	Lys	Tyr	Leu	Gly	Asn	Ala	Thr	Ala	Ile	Phe	Phe	Leu	Pro
			245						250					255	
Asp	Glu	Gly	Lys	Leu	Gln	His	Leu	Glu	Asn	Glu	Leu	Thr	His	Asp	Ile
		260						265					270		
Ile	Thr	Lys	Phe	Leu	Glu	Asn	Glu	Asp	Arg	Arg	Ser	Ala	Ser	Leu	His
	275					280						285			
Leu	Pro	Lys	Leu	Ser	Ile	Thr	Gly	Thr	Tyr	Asp	Leu	Lys	Ser	Val	Leu
	290					295					300				
Gly	Gln	Leu	Gly	Ile	Thr	Lys	Val	Phe	Ser	Asn	Gly	Ala	Asp	Leu	Ser
305				310						315					320
Gly	Val	Thr	Glu	Glu	Ala	Pro	Leu	Lys	Leu	Ser	Lys	Ala	Val	His	Lys
			325						330					335	
Ala	Val	Leu	Thr	Ile	Asp	Glu	Lys	Gly	Thr	Glu	Ala	Ala	Gly	Ala	Met
		340						345					350		
Phe	Leu	Glu	Ala	Ile	Pro	Met	Ser	Ile	Pro	Pro	Glu	Val	Lys	Phe	Asn

355	360	365
Lys Pro Phe Val Phe Leu Met Ile Glu Gln Asn Thr Lys Ser Pro Leu		
370	375	380
Phe Met Gly Lys Val Val Asn Pro Thr Gln Lys Met Cys Thr Cys Val		
385	390	395
Pro Pro His Pro Gln Thr Ala Phe Cys Asn Ser Asp Leu Val Ile Arg		
405	410	415
Ala Lys Phe Val Gly Thr Pro Glu Val Asn Gln Thr Thr Leu Tyr Gln		
420	425	430
Arg Tyr Glu Ile Lys Met Thr Lys Met Tyr Lys Gly Phe Gln Ala Leu		
435	440	445
Gly Asp Ala Ala Asp Ile Arg Phe Val Tyr Thr Pro Ala Met Glu Ser		
450	455	460
Val Cys Gly Tyr Phe His Arg Ser His Asn Arg Ser Glu Glu Phe Leu		
465	470	475
Ile Ala Gly Lys Leu Gln Asp Gly Leu Leu His Ile Thr Thr Cys Ser		
485	490	495
Phe Val Ala Pro Trp Asn Ser Leu Ser Leu Ala Gln Arg Arg Gly Phe		
500	505	510
Thr Lys Thr Tyr Thr Val Gly Cys Glu Glu		
515	520	

<210> 21
 <211> 397
 <212> DNA
 <213> Homo sapiens

<400> 21	
tctagaccat gtgcacctgt gtcccacccc acccacagac ggccttctgc aattccgacc	60
tcgtcatcag ggccaagtgc gtggggacac cagaagtcaa ccagaccacc ttataaccagc	120
gttatgagat caagatgacc aagatgtata aagggttcca agccttaggg gatgccgctg	180
acatccggtt cgtctacacc cccgccatgg agagtgtctg cggatacttc cacaggtccc	240
acaaccgcag cgaggagttt ctcattgctg gaaaactgca ggatggactc ttgcacatca	300
ctacctgcag tttcgtggct ccctggaaca gcctgagctt agctcagcgc cggggcttca	360
ccaagacgta tactgttggc tgtgaggaat agtcgac	397

<210> 22
 <211> 127
 <212> PRT
 <213> Homo sapiens

<400> 22	
Met Cys Thr Cys Val Pro Pro His Pro Gln Thr Ala Phe Cys Asn Ser	
1 5 10 15	
Asp Leu Val Ile Arg Ala Lys Phe Val Gly Thr Pro Glu Val Asn Gln	
20 25 30	
Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys Met Thr Lys Met Tyr Lys	
35 40 45	
Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp Ile Arg Phe Val Tyr Thr	
50 55 60	
Pro Ala Met Glu Ser Val Cys Gly Tyr Phe His Arg Ser His Asn Arg	
65 70 75 80	
Ser Glu Glu Phe Leu Ile Ala Gly Lys Leu Gln Asp Gly Leu Leu His	
85 90 95	
Ile Thr Thr Cys Ser Phe Val Ala Pro Trp Asn Ser Leu Ser Leu Ala	
100 105 110	
Gln Arg Arg Gly Phe Thr Lys Thr Tyr Thr Val Gly Cys Glu Glu	

115

120

125

<210> 23
 <211> 400
 <212> DNA
 <213> Homo sapiens

<400> 23
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 tcgtcatcag ggccaagttc gtgggggacac cagaagtcaa ccagaccacc ttataccagc 120
 gttatgagat caagatgacc aagatgtata aagggttcca agccttaggg gatgccgctg 180
 acatccgggtt cgtctacacc cccgccatgg agagtgtctg cggatacttc cacagggtccc 240
 acaaccgcag cgaggagttt ctcattgctg gaaaactgca ggatggactc ttgcacatca 300
 ctacctgcag tttcgtggct ccctggaaca gcctgagctt agctcagcgc cggggcttca 360
 ccaagacgta tactgttggc tgtgaggaat gctagtcgac 400

<210> 24
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Cys Thr Cys Val Pro Pro His Pro Gln Thr Ala Phe Cys Asn Ser
 1 5 10 15
 Asp Leu Val Ile Arg Ala Lys Phe Val Gly Thr Pro Glu Val Asn Gln
 20 25 30
 Thr Thr Leu Tyr Gln Arg Tyr Glu Ile Lys Met Thr Lys Met Tyr Lys
 35 40 45
 Gly Phe Gln Ala Leu Gly Asp Ala Ala Asp Ile Arg Phe Val Tyr Thr
 50 55 60
 Pro Ala Met Glu Ser Val Cys Gly Tyr Phe His Arg Ser His Asn Arg
 65 70 75 80
 Ser Glu Glu Phe Leu Ile Ala Gly Lys Leu Gln Asp Gly Leu Leu His
 85 90 95
 Ile Thr Thr Cys Ser Phe Val Ala Pro Trp Asn Ser Leu Ser Leu Ala
 100 105 110
 Gln Arg Arg Gly Phe Thr Lys Thr Tyr Thr Val Gly Cys Glu Glu Cys
 115 120 125

<210> 25
 <211> 72
 <212> DNA
 <213> Homo sapiens

<400> 25
 atgccgtctt ctgtctcgtg gggcatcctc ctgctggcag gcctgtgctg cctgggtccct 60
 gtctccctgg ct 72

<210> 26
 <211> 24
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Pro Ser Ser Val Ser Trp Gly Ile Leu Leu Leu Ala Gly Leu Cys
 1 5 10 15
 Cys Leu Val Pro Val Ser Leu Ala

20

<210> 27
 <211> 75
 <212> DNA
 <213> Homo sapiens

<400> 27
 atgaagtcca ggggcctctt ccccttcttg gtgctgcttg ccctgggaac tctggcacct 60
 tgggctgtgg aaggc 75

<210> 28
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Lys Ser Ser Gly Leu Phe Pro Phe Leu Val Leu Leu Ala Leu Gly
 1 5 10 15
 Thr Leu Ala Pro Trp Ala Val Glu Gly
 20 25

<210> 29
 <211> 69
 <212> DNA
 <213> Homo sapiens

<400> 29
 atggccccct ttgagccccct ggcttctggc atcctgttgt tgctgtggct gatagccccc 60
 agcaggggcc 69

<210> 30
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 30
 Met Ala Pro Phe Glu Pro Leu Ala Ser Gly Ile Leu Leu Leu Leu Trp
 1 5 10 15
 Leu Ile Ala Pro Ser Arg Ala
 20

<210> 31
 <211> 269
 <212> DNA
 <213> Homo sapiens

<400> 31
 atgagatttc cttcaatttt tactgcagtt ttattcgcag catcctccgc attagctgct 60
 ccagtcaaca ctacaacaga agatgaaacg gcacaaattc cggctgaagc tgtcatcggt 120
 tactcagatt tagaagggga tttcgatggt gctgttttgc cattttccaa cagcacaaat 180
 aacgggttat tgtttataaa tactactatt gccagcattg ctgctaaaga agaaggggta 240
 tctctagata aaagagaggc tgaagcttg 269

<210> 32
 <211> 89
 <212> PRT

<213> Homo sapiens

<400> 32

Met	Arg	Phe	Pro	Ser	Ile	Phe	Thr	Ala	Val	Leu	Phe	Ala	Ala	Ser	Ser
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Ala	Leu	Ala	Ala	Pro	Val	Asn	Thr	Thr	Thr	Glu	Asp	Glu	Thr	Ala	Gln
			20					25					30		
Ile	Pro	Ala	Glu	Ala	Val	Ile	Gly	Tyr	Ser	Asp	Leu	Glu	Gly	Asp	Phe
		35					40					45			
Asp	Val	Ala	Val	Leu	Pro	Phe	Ser	Asn	Ser	Thr	Asn	Asn	Gly	Leu	Leu
	50					55					60				
Phe	Ile	Asn	Thr	Thr	Ile	Ala	Ser	Ile	Ala	Ala	Lys	Glu	Glu	Gly	Val
65					70					75					80
Ser	Leu	Asp	Lys	Arg	Glu	Ala	Glu	Ala							
				85											

<210> 33

<211> 4

<212> PRT

<213> Artificial sequence

<220>

<223> Synthetic construct

<400> 33

Ala Ala Pro Val

1